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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,141	05/31/2006	Wim D'Haes	DECL116.001APC	1976
29995 7590 08/27/2009 KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614				
EXAMINER ALBERTALLI, BRIAN LOUIS				
ART UNIT		PAPER NUMBER		
2626				
NOTIFICATION DATE		DELIVERY MODE		
08/27/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/581,141

Applicant(s)

D'HAES, WIM

Examiner

BRIAN L. ALBERTALLI

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-37 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 19-37 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/55/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 19-31 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 19-31 are directed to a method for modeling, analyzing, and/or synthesizing a windowed signal. The claims define a series of acts to be performed, therefore, the claims fall within the "process" statutory category of invention. However, claims directed to nothing more than abstract ideas (such as mathematical algorithms), natural phenomena, and laws of nature are not eligible for patent protection, unless the claims are directed to a practical application (Benson, 409 U.S. at 71, 175 USPQ at 676). To meet the practical application test, the claims must produce a useful, concrete, and tangible result. In this case, claims 19-31 fail this test.

Modeling, analyzing, and/or synthesizing a windowed signal, without any claimed application of such modeling, analyzing, and/or synthesizing, amounts to a mere manipulation of data. While the method is "concrete" (that is, the result would be repeatable and predictable), the method fails the other two prongs of the test. The claimed method amounts to accepting an arbitrary "signal", and calculating the frequencies and complex amplitudes of the signal. The determined frequencies and complex amplitudes of the signal are not "useful" unless applied to a particular application (such as coding speech). Similarly, they are not "tangible" since the claims

do not set forth a practical application of the determined frequencies and complex amplitudes to produce a real-world result (such as a coded speech signal).

That claims 19-31 are not directed to a practical application is further highlighted by dependent claims 32-37. Each of claims 32-37 define a practical application of the claimed modeling, analyzing, and/or synthesizing a windowed signal, including pitch estimation, sample rate conversion, speech coding, etc. These claims clearly meet the application test, and are therefore considered practical applications of the claimed modeling, analyzing, and/or synthesizing of a windowed signal.

3. However, claims 19-37 are additionally rejected under 35 U.S.C. 101, because the claims do not define a statutory process. While the claim(s) recite a series of steps or acts to be performed, a statutory "process" under 35 USC 101 must (1) be tied to another statutory category (such as a manufacture or a machine), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. The instant claim(s) neither transform underlying subject matter nor positively recite structure associated with another statutory category, and therefore do not define a statutory process.

The claims clearly do not transform the underlying subject matter to a different state or thing, therefore, it must be determined whether the claims are tied to another statutory category. In this case, although the claims are directed to various methods for "calculating" determined frequencies and complex amplitudes of a signal, there is no description in the specification of a particular machine or apparatus for performing these

calculations. Throughout the specification, the invention is described as a "method". The specification does not recite any hardware (such as a computer processor) that would perform the steps of the method. Various "processors", "coders", etc. as described in the specification do not appear to be physical microprocessors or coding hardware, but rather, seem to described various algorithms performing processing or coding steps.

Thus, absent any description of a particular machine or apparatus in the specification for performing the method steps, claims 19-37 appear to be not explicitly or inherently tied to another statutory category.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 1 is further rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is directed to a method for modeling, analyzing, and/or synthesizing a windowed signal. However, it is unclear how the recited steps of the method could be used for "synthesizing" a windowed signal. That is, the method requires computing the frequencies and complex amplitudes *from the signal*. In synthesis, the signal would be *created* based on frequency and complex amplitude values. The frequencies and

complex amplitudes could not be determined "from the signal", because *the signal would not exist* until it was synthesized.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Li et al. (*Computationally efficient parameter estimation for harmonic sinusoidal signals*) disclose a method for determining sinusoids using a least squares method. Zeytinoglu et al. (*Detection of Harmonic Sets*) disclose a least squares method. Haake et al. (U.S. Patent 4,973,111) disclose a general sinusoidal coder.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN L. ALBERTALLI whose telephone number is (571)272-7616. The examiner can normally be reached on Monday-Thursday, 8 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BLA 8/24/09
/Brian L. Albertalli/
Examiner, Art Unit 2626